

# **DRAFT**

**COUNTY OF SAN DIEGO**

**INTERIM REPORT FORMAT AND CONTENT  
REQUIREMENTS**

**CLIMATE CHANGE**



**LAND USE AND ENVIRONMENT GROUP**

**Department of Planning and Land Use  
Department of Public Works**

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## **PURPOSE**

These Interim Report Format and Content Requirements for Climate Change provide guidance on conducting greenhouse gas inventories and preparing reports for discretionary projects being processed by the Land Use and Environment Group. These guidelines are designed to:

1. Ensure the quality, accuracy and completeness of a project Climate Change Analysis.
2. Aid in staff's efficient and consistent review of modeling information and calculations from different consultants.
3. Provide adequate information to make appropriate planning decisions and to make determinations regarding conformance with applicable regulations.
4. Increase the efficiency of the environmental review process and avoid unnecessary time delays.

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## **1.0 INTRODUCTION**

The purpose of climate change analysis (CCA) is to show that a project is in conformance with AB 32 by creating a greenhouse gas (GHG) inventory for the build out of a proposed project and showing how the project incorporates project design or mitigation measures that are consistent with goals and strategies of AB 32 to reduce GHGs to 1990 levels by 2020. These report formats will be used by County approved Air Quality consultants in the preparation of CCAs and by County staff in the review of project CCAs. Adherence to these formats is required to minimize the number of iterations of review required. The intent of these report formats is to ensure the technical study includes the required technical components and is presented in logical way. It is recognized that because each project will have its own issues and analysis considerations, the format and content may need to be customized to accommodate unique circumstances. Modifications to the report format and content for project CCAs must be discussed with the staff climate change specialist.

## **2.0 CLIMATE CHANGE ANALYSIS**

As discussed in the Interim Guidelines for Determining Significance for Climate Change (Guidelines), Senate Bill 97, enacted in 2007, amends the CEQA statute to establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs the State Office of Planning and Research (OPR) to develop draft CEQA Guidelines “for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions” by July 1, 2009 and directs the Resources Agency to certify and adopt the revised CEQA Guidelines by January 1, 2010. As additional guidance from the State is received, these Interim Guidelines and Report Format and Content Requirements will be updated.

### **2.1 Screening Criteria**

Certain projects must prepare a CCA. The criteria for determining which projects must prepare the analysis are those projects that would generate approximately 900 metric tons per year of GHG emissions. This screening criteria is based on the California Air Pollution Control Officers Association (CAPCOA) white paper which sets forth various screening criteria to assist lead agencies in determining when an evaluation of greenhouse gas emissions under CEQA should be required. Table 5 identifies various project types and sizes that would generally produce 900 metric tons or more of GHGs per year. Other project types may be required to complete a CCA if it could generate 900 metric tons or more of GHG emissions.

**Table 1 – Project Type Examples\* that Require Climate Change Analysis**

<b>Project Type</b>	<b>Project Size that Generates Approximately 900 metric Tons of GHGs per Year</b>
Single Family Residential	50 units
Apartments / Condominiums	70 units
General Commercial Office Space	35,000 square feet
Retail Space	11,000 square feet
Supermarket / Grocery Space	6,300 square feet

\* A determination on the need for a climate change analysis for project types that do not fit the categories in this table (mixed use/industrial) will be made on a case-by-case basis, based on whether a project could generate 900 metric tons or more of GHGs.

### **3.0 CLIMATE CHANGE ANALYSIS REPORT FORMAT REQUIREMENTS**

A thorough CCA will prepare an inventory of GHGs for the proposed project based on, energy consumption, water usage, construction activities, vehicular traffic, and any other unique operational emissions a project may have. Modeling tools currently used to assist in quantifying GHG emissions are discussed below.

The CCA should identify whether impacts are direct and/or cumulative in nature, and whether the impacts are significant, and propose mitigation measures for any identified impacts. Direct air impacts are those that are caused by and immediately related to the project.

#### **3.1 Typical Climate Change Analysis Outline**

The required sections of a CCA are provided in the outline/Table of Contents below:

#### **COVER PAGE**

#### **TABLE OF CONTENTS (Including a list of tables, maps & figures)**

#### **GLOSSARY OF TERMS AND ACRONYMS**

#### **EXECUTIVE SUMMARY**

#### **1.0 INTRODUCTION**

##### **1.1 Purpose of the Report & Regulatory Background**

##### **1.2 Project Location and Description**

#### **2.0 POTENTIAL CLIMATE CHANGE IMPACTS ON PROJECT SITE**

#### **3.0 SIGNIFICANCE CRITERIA & ANALYSIS METHODOLOGIES**

- 3.1 Guideline for Determining Significance**
- 3.2 Methodology & Assumptions**

#### **4.0 GREENHOUSE GAS INVENTORY**

- 4.1 Construction GHG Emissions**
  - 4.1.1 Heavy Construction Equipment**
  - 4.1.2 Construction Worker VMTs**
  - 4.1.3 Construction Water Use**
- 4.2 Operational GHG Emissions**
  - 4.2.1 Energy**
    - 4.2.1.1 Electricity**
    - 4.2.1.2 Natural Gas**
    - 4.2.1.3 Water**
  - 4.2.2 Transportation**
  - 4.2.3 Solid Waste**
  - 4.2.4 Point Source GHG Emissions (If Applicable)**

#### **5.0 SUMMARY OF RECOMMENDED PROJECT DESIGN FEATURES, IMPACTS AND MITIGATION MEASURES**

#### **6.0 REFERENCES**

#### **7.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED**

**TECHNICAL ATTACHMENTS (order will be determined by reference in report)**

### **3.2 General Content Guidance**

Guidance for each section of the CCA is provided below.

#### **Cover Page**

The cover page shall include the following information:

- Project common name
- Project numbers (i.e. TM, ZAP, etc.) including the environmental log number (ER)
- Date (original report date plus all revisions) must be revised during each iteration of the draft report)
- Name of County Approved CEQA Consultant preparing document, firm name (if applicable) and address
- Signature of County Approved CEQA Consultant
- Project proponent's name and address
- The following statement: Prepared for The County of San Diego

### **Table of Contents** (Including a list of tables, maps & figures)

The table of contents should follow the recommended order and format outlined in this document. Page numbers should be assigned when possible especially to all the pertinent tables and figures. Titles of each attachment/appendix should be listed in the order in which they are referenced in the document.

### **Glossary of Terms and Acronyms**

Provide a list of terms and acronyms used in the study.

### **Executive Summary**

Provide a brief summary of the project, the total construction and operational GHG emissions, whether or not the project conflicts with the goals and strategies set forth in AB 32, project design measures and proposed mitigation (if applicable). No new information should be provided in the summary that is not further explained elsewhere in the document. The purpose of the summary is to provide a quick reference for the public and decision-makers. Therefore, the language should be less technical than that used in the remainder of the document.

### **Section 1.0 Introduction**

This section should briefly discuss climate change and GHGs, along with a brief history of recent California regulations that have required Climate Change to be considered as a part of CEQA. The introduction section should also include a project a detailed description.

### **Section 2.0 Potential Climate Change Impacts to Project Site**

This section should briefly discuss possible impacts of Climate Change on the project site and proposed uses. For example, consideration should be given to the location of the site in relation to flooding hazards, fire hazard or other natural hazards that could result from future climate changes. The effects of climate change on project site must be included, however it may be appropriate to conclude that the impacts are speculative. Therefore, it will not usually be necessary to reach a significance conclusion related to this issue.

### **Section 3.0 Significance Criteria & Analysis Methodology**

This section should introduce the Guideline for Determining Significance then move directly into the methodology(ies) used for evaluating project GHG emissions. Describe the modeling tool(s)/program(s) used to calculate GHG emissions. Include in the description of the methodology or equations used to estimate GHG emissions a discussion of the assumptions used to calculate/estimate emission. The discussion should including assumptions used to calculate vehicle miles traveled (VMT).

### **Section 4.0 Greenhouse Gas Inventory**

The GHG Inventory must include an analysis of direct and indirect GHG emissions discussed in the subsections below.

#### **4.1 Construction GHG Emissions**

Construction GHG inventory should consider heavy vehicles and equipment emissions, worker trip emissions and water usage emissions, along with any other special project construction requirements that may contribute to GHG emissions. The consultant shall utilize the OFFROAD 2007 emissions inventory model to calculate GHG emissions resulting from off-road equipment. The OFFROAD 2007 emissions inventory model provides data on CO<sub>2</sub> and CH<sub>4</sub> emissions. N<sub>2</sub>O emissions should be obtained utilizing CAR protocol and back calculating based on fuel usage.

#### **4.2 Operational GHG Emissions**

Operational GHG inventory should consider GHGs from electricity use, water use (electricity from embodied energy/potable water), natural gas use, creation of solid waste and any project specific component that might generate point sources of GHG emissions. Total GHG emissions from VMT must be calculated in the inventory. The consultant shall utilize EMFAC2007 emissions inventory model which provides GHG emissions of CO<sub>2</sub> and CH<sub>4</sub>. N<sub>2</sub>O emissions can be derived from the U.S. EPA N<sub>2</sub>O conversion ratio or the UCLA N<sub>2</sub>O conversion ratio study.

This section should include a discussion of how various state regulations will account for a majority of emissions reductions associated with VMT to justify the project requirement to reduce emissions associated with 10 percent of VMT. Refer to the CAPCOA White Paper, Executive Summary, Table 2. Emission Reduction Wedges to Achieve AB 32 Targets for a summary of the regulations that will achieve emissions reductions associated with VMT.

### **Section 5.0**      **Summary of Recommended Project Design Features, Impacts and Mitigation Measures**

This section should bring together all the project impacts, project design measures and proposed mitigation. A table to summarize the project emissions and required reductions should be provided. An example is provided below. A separate table to identify project design considerations and mitigation measures that would reduce GHG emissions should also be included. The table should include quantification of the emission reductions that would be achieved by each measure. The CAPCOA white paper<sup>1</sup> includes an appendix that covers a range of potential mitigation measures and provides estimates of expected emissions reductions for a variety of mitigation measures.

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<sup>1</sup> See <http://www.capcoa.org/ceqa/CAPCOA%20White%20Paper%20-%20CEQA%20and%20Climate%20Change.pdf> for the CAPCOA White Paper and refer to Appendix B, Mitigation Measure Summary.



**Table XX. Summary of Project Emissions and Required Reductions**

	<b>Construction and Operational Emissions</b>	<b>On-road vehicular emissions</b>	<b>Total</b>
<b>Project Emissions</b>	<i>Total construction and operational emissions</i>	<i>Total emissions from VMT</i>	<i>Total project emissions</i>
<b>Required Reductions</b>	<i>33 Percent of total Construction and Operational Emissions</i>	<i>10% of total VMT</i>	<i>Total required emission reductions (33% of construction and operational emissions + 10% of VMT emissions)</i>

### **Energy Efficiency**

- Design buildings to be energy efficient. Site buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.
- Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings.
- Install light colored “cool” roofs, cool pavements, and strategically placed shade trees.
- Provide information on energy management services for large energy users.
- Install energy efficient heating and cooling systems, appliances and equipment, and control systems.
- Install light emitting diodes (LEDs) for traffic, street and other outdoor lighting.
- Limit the hours of operation of outdoor lighting.
- Use solar heating, automatic covers, and efficient pumps and motors for pools and spas.

### **Renewable Energy**

- Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning.
- Install solar panels on carports and over parking areas.
- Use combined heat and power in appropriate applications.

### **Water Conservation and Efficiency**

- Create water-efficient landscapes.
- Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.
- Use reclaimed water for landscape irrigation in new developments and on public property. Install the infrastructure to deliver and use reclaimed water.
- Design buildings to be water-efficient. Install water-efficient fixtures and appliances.
- Use greywater. (Greywater is untreated household waste water from bathtubs, showers, bathroom wash basins, and water from clothes washing machines.) For

example, install dual plumbing in all new development allowing greywater to be used for landscape irrigation.

- Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.
- Restrict the use of water for cleaning outdoor surfaces and vehicles.
- Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. (Retaining storm water runoff on-site can drastically reduce the need for energy-intensive imported water at the site.)
- Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate to the specific project.
- Provide education about water conservation and available programs and incentives.

### **Solid Waste Measures**

- Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
- Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.

### **Transportation and Motor Vehicles**

- Use low or zero-emission vehicles, including construction vehicles.
- Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides.
- Provide accommodations for car sharing programs such as providing parking spaces for car share vehicles at convenient locations accessible by public transportation.
- Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations)
- Reduce incentives for driving and parking private vehicles Increase the cost of driving and parking private vehicles by, e.g., parking fees.
- Build or fund a transportation center where various public transportation modes intersect.
- Provide shuttle service to public transit.
- Provide public transit incentives such as free or low-cost monthly transit passes.
- Promote “least polluting” ways to connect people and goods to their destinations.
- Incorporate bicycle lanes and routes into street systems, new subdivisions, and large developments.
- Incorporate bicycle-friendly intersections into street design.
- For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience.

- For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.
- Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.
- Work with the school district to restore or expand school bus services.

## **Section 6.0**      **References**

Include all references used to support information included in the technical study.

## **Section 7.0**      **List of Preparers, Persons and Organizations Contacted**

List the person responsible for preparation of the CCA. This person must be a consultant on the County approved consultant list for Air Quality. Indicate other persons and organizations contacted in the preparation of the study.

## **Attachments**

The attachments should include (in the order referenced to in the document) all spreadsheets used in GHG emission calculations and all modeling inputs and results. Any assumptions or changes to default values must be justified.

## 4.0 REFERENCES

California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. California Air Resource Board. 2007.

California Air Resources Board: Estimates of Nitrous Oxide Emissions from Motor Vehicles and the Effects of Catalyst Composition and Aging, 2005.

California Health and Safety Code  
Division 26; Parts 1-4 &  
6;<http://www.leginfo.ca.gov/>

California Public Resources Code  
California Environmental Quality Act (Public  
Resource Code §21000-21178).

CEQA & Climate Change. California Air Pollution  
Control Officers Association, 2008.

Emissions of Nitrous Oxide from Highway Mobile  
Sources, US EPA March 1998

United States Code of Federal Regulations  
Title 42; Chapter 55; National Environmental  
Policy Act. As amended  
<http://www4.law.cornell.edu/uscode/42/ch55.html>.

Title 42, Chapter 85, Subchapter 1, The Clean  
Air Act.  
[http://www.epa.gov/oar/oaq\\_caa.html](http://www.epa.gov/oar/oaq_caa.html)

United States Environmental Protection Agency.  
National Emission Standards For Hazardous  
Air Pollutants. Code of Federal  
Regulations. Title 40; Chapter 1; Part 6